

IN THE SPECIFICATION

On page 2, line 17, please delete “elastomer” and insert --material -- therefore;

On page 8, line 24, please delete “26” and insert --30 -- therefore;

On page 8, line 25, please delete “28” and insert --32-- therefore;

On page 13, line 7, after the word “by” please insert --an adhesive such as an--;

On page 13, line 29, please delete “one particularly suitable” and insert ---a preferred-- therefore;

On page 15, line 11, please delete “84” and insert --83-- therefore;

On page 15, line 18, after the word “layer” please insert --(e.g., 85 in Figure 8)--;

On page 16, line 9, after the word “gauges” please insert --22, 24, 30, 32--;

On page 16, line 20, after the word “surface” please insert --(84 in Figure 8, for example)--;

On page 17, line 17, please delete “sensor assembly” and insert --sensors-- therefore;

On page 17, line 22, please insert a comma --,-- after the word “example”;

On page 21, line 13, please delete “222” and insert --202-- therefore;

On page 21, line 14, please delete “222” and insert --202-- therefore; and

On page 21, line 15, please delete “222” and insert --202-- therefore.

IN THE CLAIMS:

Please delete Claims 24-28.

Please amend Claims 1-5, 30, 31, and 33 as follows:

In Claim 1, line 1, please delete "three-axis";

In Claim 1, line 2, please delete "sensor" and insert --assembly-- therefore;

In Claim 1, line 3, please delete "axes" and insert --planes-- therefore;

In Claim 1, line 6, please delete "axes" and insert --planes-- therefore;

In Claim 1, line 7, please delete "generally orthogonal to the first direction";

In Claim 2, line 1, please delete "three-axis";

In Claim 2, line 2, please delete "outputs of" and insert --forces on-- therefore;

In Claim 2, line 3, please delete "orthogonal to said first and second directions";

In Claim 3, line 1, please delete "three-axis", and after the word "sensor" please insert --assembly--;

In Claim 4, line 1, please delete "three-axis";

In Claim 4, line 2, please delete the second occurrence of the word "respective" and insert --respect-- therefore;

In Claim 5, line 1, please delete "three-axis";

In Claim 17, line 1, please insert --said-- after "wherein";

In Claim 30, line 1, please delete "three axis";

In Claim 30, line 3, after the word "sensor" please insert --assembly--;

In Claim 30, line 4, after "body" please insert a comma --,-- and after the word "and", please delete the comma ",";

In Claim 30, line 5, please delete "select", and replace "said" with --the--, and after the semi-colon insert --and--;

In Claim 30, line 6, after the word "pyramid" please insert -- -shaped body --, and please delete the word "the" and insert --a-- therefore;

In Claim 31, line 1, after "30" please insert --,--;

In Claim 33, line 1, please delete "three-axis sensor", and insert --the first and second pairs of strain gauges-- therefore.

Please add the following new claims:

1 36. The process of Claim 35, further including the step of coupling the strain
2 gauges to the body with an adhesive.

1 37. The process of Claim 36, further including the step of potting the sensor
2 assembly in a third material.

1 38. The process of Claim 37, wherein the adhesive and the third material are
2 the same.

1 39. The process of Claim 30, further including the step of placing a topping
2 layer on the sensor assembly so as to scale strain forces sensed by the strain gauges.

1 40. The three-axis sensor assembly of Claim 10, wherein said first sensing
2 element comprises a first pair of strain sensors, and said second sensing element
3 comprises a second pair of strain sensors.

1 41. The three-axis sensor assembly of Claim 40, wherein said first sensing
2 element is disposed on a first pair of generally opposed faces of a pyramid-shaped body,
3 and said second sensing element is disposed on a second pair of generally opposed faces
4 of the pyramid-shaped body.

1 42. The three-axis sensor assembly of Claim 41, wherein said first and second
2 pairs of strain sensors are resistive strain sensors.

1 43. The three-axis sensor assembly of Claim 42, wherein said first and second
2 sensing elements generate said first and second outputs differentially.

1 44. The three-axis sensor assembly of Claim 43, wherein said first and second
2 sensing elements are arranged in a Wheatstone bridge circuit to generate said first and
3 second outputs.

1 45. A process of embedding a sensor in an elastomeric material, the process
2 comprising:
3 providing a three-axis sensor assembly including first and second pairs of
4 strain sensors, the first pair disposed on first opposed faces of a pyramid-shaped body,
5 and the second pair disposed on second opposed faces of the pyramid-shaped body; and
6 placing the sensor assembly in the elastomeric material when the
7 elastomeric material is in an uncured state.

1 46. The process of Claim 45, further comprising the step of adjusting the
2 aspect ratio of the pyramid-shaped body according to a sensitivity of the sensor assembly.

1 47. The process of Claim 45, further comprising the step of encapsulating the
2 first and second pairs of strain sensors.

1 48. The process of Claim 47, wherein said encapsulating step includes using a
2 second material different than the elastomeric material.

1 49. The process of Claim 48, further comprising the step of selecting a ratio of
2 elastic moduluses between the elastomeric material and the second material.

1 50. The process of Claim 49, wherein the second material is one of polyimide
2 and epoxy.

1 51. The process of Claim 48, further including the step of coupling the strain
2 sensors to the pyramid-shaped body with an adhesive.

1 52. The process of Claim 51, further including the step of potting the sensor
2 assembly in a third material.

1 53. The process of Claim 52, wherein the elastomeric material, the second
2 material, the third material and the adhesive are different.

1 54. The process of Claim 52, further including the step of placing a topping
2 layer on the sensor assembly so as to scale strain forces sensed by the strain sensors.

1 55. The process of Claim 45, further comprising the step of adjusting the
2 hardness of the pyramid-shaped body relative to the elastomeric material.

1 56. The process of Claim 45, further comprising the step of coupling the
2 pyramid-shaped body to a printed circuit.

1 57. The process of Claim 56, wherein the printed circuit is flexible.

1 58. The process of Claim 56, wherein the printed circuit includes a substrate
2 and said coupling step includes coupling the pyramid-shaped body to the substrate.

1 59. The process of Claim 58, wherein the substrate comprises a silicon IC.

1 60. The process of Claim 59, wherein the substrate further comprises one of a
2 polyimide and an epoxy.

1 61. The process of Claim 60, further comprising the step of electrically
2 coupling the strain sensors to the printed circuit.

1 62. The process of Claim 58, wherein the substrate includes generally planar
2 top and bottom surfaces, and the pyramid-shaped body is coupled to the top surface.

1 63. The process of Claim 62, further comprising the step of disposing an
2 integrated circuit on the bottom surface when the strain sensors are piezoelectric strain
3 sensors.

1 64. The process of Claim 63, further comprising the step of electrically
2 coupling the integrated circuit to the printed circuit.

1 65. The process of Claim 63, wherein the integrated circuit is displaced from
2 the pyramid-shaped body.

1 66. The process of Claim 63, wherein the integrated circuit includes a buffer
2 amplifier.

1 67. The process of Claim 45, further comprising the step of coupling the
2 resistive strain sensors to the opposed faces with an adhesive.

1 68. The process of Claim 67, wherein the adhesive is an epoxy.

1 69. A three-axis sensor assembly embedded in an elastomeric material that
2 measures strain forces on the elastomeric material, the sensor assembly comprising:
3 a three-axis sensor assembly including two pairs of strain sensors, a first
4 pair disposed on first opposed faces of a pyramid-shaped body, and a second pair
5 disposed on second opposed faces of the pyramid-shaped body;
6 a printed circuit responsive to the outputs of said strain sensors to generate
7 a signal indicative of a strain force acting on the elastomeric material; and
8 wherein the sensor assembly is electrically coupled to the printed circuit.

1 70. The three-axis sensor assembly of Claim 69, wherein the strain sensors are
2 resistive strain sensors.

REMARKS

Entry of the above amendments is respectfully requested. Each of the above amendments is being made to either clarify particular features of the preferred embodiment, or, in the case of the added claims, to more specifically define certain aspects of the preferred embodiment.